1. Portable apparatus for deep vein thrombosis (DVT) prophylaxis, comprising:

a substantially inelastic outer shell having an inner wall, the shell being dimensioned for wearing around a portion of a human extremity having an outer surface;

an inflatable/deflatable bladder disposed between the inner wall of the outer shell and the outer surface of the extremity; and

self-contained, battery-operated electrical and pneumatic circuitry supported proximate the bladder, the circuity including an operator control operative to at least inflate the bladder on a regular and periodic basis.

2. The apparatus of claim 1, wherein the circuitry includes:

a miniature air compressor to inflate the bladder; and

a pressure sensor in pneumatic communication with the bladder to terminate the operation of the compressor upon reaching a pressure established through the operator control.

3. The apparatus of claim 1, wherein the substantially inelastic outer shell is a cast.

4. The apparatus of claim 1, wherein the circuitry

further includes means for deflating the bladder upon achieving a predetermined pressure.

5. The apparatus of claim 4, wherein the means for deflating the bladder upon achieving a predetermined pressure includes a controlled leak valve/deflation valve.

6. The apparatus of claim 1, wherein the substantially inelastic outer shell is dimensioned for wearing around an upper portion of a human calf.

7. The apparatus of claim 1, wherein the substantially inelastic outer shell is dimensioned for wearing around a human foot.

8. The apparatus of claim 1, wherein the substantially inelastic outer shell is dimensioned for wearing around at least a portion of a human hand.

9. The apparatus of claim 1, wherein the substantially inelastic outer shell is substantially rigid.

10. The apparatus of claim 1, wherein the substantially inelastic outer shell is composed of a non-stretch fabric.

11. The apparatus of claim 1, further including a sensor for operating the circuitry only when the extremity has been substantially motionless for a predetermined period of time.

12. Portable apparatus for deep vein thrombosis (DVT) prophylaxis, comprising:

a substantially inelastic outer shell having an inner wall, the shell being dimensioned for wearing around the upper portion of a human calf;

an inflatable/deflatable bladder disposed between the inner wall of the outer shell and the outer surface of the calf; and

self-contained, battery-operated electrical and pneumatic circuitry supported immediately outside the outer shell, the circuity including an operator control operative to at least inflate the bladder on a regular and periodic basis, the circuitry including:

a miniature compressor operative to fill the bladder with air, and

a pressure sensor operative to turn off the compressor upon reaching a predetermined bladder pressure.

13. The apparatus of claim 12, wherein the inelastic outer shell forms part of a cast.

14. The apparatus of claim 12, wherein the circuitry further includes means for deflating the bladder upon achieving a predetermined pressure.

15. The apparatus of claim 14, wherein the means for deflating the bladder upon achieving a predetermined pressure includes a controlled leak valve/deflation valve.

16. The apparatus of claim 12, wherein the substantially inelastic outer shell is substantially rigid.

17. The apparatus of claim 12, wherein the substantially inelastic outer shell is composed of a non-stretch fabric.

18. The apparatus of claim 14 wherein the substantially inelastic outer shell is dimensioned for wearing around an upper portion of a human calf.

19. The apparatus of claim 14 wherein the substantially inelastic outer shell is dimensioned for wearing around a human foot.

20. The apparatus of claim 14 wherein the substantially inelastic outer shell is dimensioned for wearing around at least a portion of a human hand.